

EDUCATIONAL RECORDS SUPPLEMENTARY BULLETIN H

Functions of the Educational Records Bureau
in Comparable Measurement

EDUCATIONAL RECORDS BUREAU

437 West 59th Street
New York 19, N. Y.

September, 1943

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FUNCTIONS OF THE EDUCATIONAL RECORDS BUREAU
IN COMPARABLE MEASUREMENT

By

Arthur E. Traxler

EDUCATIONAL RECORDS BUREAU
437 West 59th Street
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September, 1943

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11-8-43 Educ Records Bureau - Educ

THE FUNCTIONS OF THE EDUCATIONAL RECORDS BUREAU IN COMPARABLE MEASUREMENT

Introduction

An understanding of the work of the Educational Records Bureau can be had only by viewing it against the background of the whole measurement movement. Like a number of similar organizations, it is the product of a philosophy and a method of studying school children that are relatively new in America, that are not founded on tradition, and that have no counterpart outside this country.

In the early history of examinations, attempts at the measurement of the ability and achievement of students were sporadic and unorganized. Up to the second decade of the present century, measurement was almost entirely an institutional affair and it has remained just that for the great majority of schools and colleges almost to the present time. Examinations have traditionally been made by classroom teachers who have had neither training for nor special interest in this aspect of their work. Except for such advanced thinkers as Horace Mann, the idea that there could be a theory and technique of measurement apart from the process of instruction itself seems not to have occurred to anyone until recent times.

Because examinations were for the most part made carelessly and without reference to the experience of other persons, the typical early examination was very inadequate. Examinations were at first entirely oral and were not infrequently concocted on the spur of the moment to confound the unhappy candidate. The written essay examinations which began to be introduced in America early in the nineteenth century were an improvement over the oral ones, but their lack of reliability and validity was amazing--all the more so because their inferiority was so seldom suspected by their complacent authors.

So great was the faith of each individual school and college in its own particular examination system at the turn of the last century that it required

much work and persuasion on the part of such outstanding leaders as President Eliot of Harvard and Nicholas Murray Butler of Columbia to bring some order out of the chaos. Finally, however, their efforts prevailed and the College Entrance Examination Board was established. Later, the Secondary Education Board was set up to perform for private secondary schools a function similar to the work of the College Board at a higher level. The services of the College Entrance Examination Board and the Secondary Education Board in improving essay examinations and in bringing about uniformity in examining from one institution to another are too well-known to require comment here.

Early Objective Tests

Probably brief-answer tests have occasionally been used by teachers for generations, but apparently it was less than fifty years ago that anyone realized that there was inherent in the brief-answer question a technique on which a science of education might be built. Once the idea was expressed, however, it took hold very rapidly. From 1897, when Rice made his now historic speech, "The Futility of the Spelling Grind," to the Department of Superintendence of the National Educational Association, up to the middle 1920's, there was a great development of objective tests of all kinds without much conscious attempt at organization. Shortly after 1900, the idea of objective measurement first expressed by Rice caught the interest of Thorndike, Stone, Freeman, Courtis, Kelley, and a host of other rising young educational leaders and they in turn set numerous students to work. The result was a multiplicity of objective tests in nearly every subject field.

Many of these new tests were very inferior. For years, the concept of measurement ran far ahead of technological development in the field, and the sudden interest of commercial organizations in objective tests was not altogether salutary. The work of Thorndike and some of the other earlier leaders in test

construction was monumental, but many other persons did not have the same genius in test making. The result of all the influences at work was that many hastily constructed and poorly validated measuring instruments were thrown on the market to be seized upon by hundreds of administrators and teachers who were entirely unprepared to use test results intelligently but who had been told that these new instruments would work wonders in their schools. Confusion, misuse, and disillusionment followed in rapid succession in many places. It is true that here and there schools under intelligent and trained leadership were able to work out excellent guidance programs based on measuring instruments that had been carefully selected from the mass of available tests, but these schools were the exception rather than the rule.

The great need was for centralized leadership to organize and direct both test construction and use. To meet this need, a variety of agencies has arisen within the last twenty years.

State-Wide Testing Programs

One of the first and most influential of the efforts directed toward the organization and unification of testing efforts is found in various state testing programs. It appears that the first state-wide testing program was begun in Minnesota shortly after the first World War, but other states quickly followed this lead until testing has been undertaken on a state-wide basis in at least sixteen states, including Alabama, Colorado, Connecticut, Georgia, Indiana, Iowa, Kansas, Kentucky, Michigan, Minnesota, Ohio, New Hampshire, North Carolina, South Carolina, Washington, and Wisconsin. One of the oldest, best organized, and best known of these is the Iowa State Testing Program, under the direction of Dr. E. F. Lindquist. The tests constructed for use in that state are also employed in several other programs.

Under the leadership of the state university or one of the other institutions of higher learning, some of these state programs began with the testing of the high-school seniors. Test scores secured in this way have served to provide colleges with objective data for the admission and placement of students.

It soon became apparent, however, that the testing of high-school seniors, valuable though this procedure proved to be, was not enough. It became increasingly evident that what was needed was a program of annual comparable measurements that would serve as a basis for guidance in the elementary and secondary schools and would provide highly reliable information for selective admission and placement in college. The long-time study of the Relations of Secondary and Higher Education in Pennsylvania, conducted by the Carnegie Foundation under the direction of Dr. William S. Learned and Dr. Ben D. Wood, greatly added impetus to the movement for comparable measurements. We find, therefore, that to an increasing degree the state testing programs have tended to be placed on an annual basis and to cover a range of grades.

The state testing leaders have not been satisfied to rest with the giving of the tests. In many instances, they have provided scoring services and have made up state-wide norms each year, and all of them have furnished expert advice in testing and guidance, information on the use of the test results, and various summary reports to the schools in their respective areas.

National Testing Programs

Although state-wide testing programs have been of inestimable help to the guidance programs of schools in a number of states, a need has quite naturally grown up for the services of organizations that would transcend state boundaries and that would provide testing services on a nation-wide scope. The most ambitious venture in the production of tests to serve secondary schools and colleges throughout the country has been the establishment of the Cooperative

Test Service, under the auspices of the American Council on Education, through a subvention from the General Education Board. The broad purposes of this service were to help coordinate testing and guidance in America and to co-operate with institutions and individuals interested in adjusting educational procedures to the needs of individual students. Under the direction of Dr. Ben D. Wood, the Cooperative Test Service undertook, starting in 1932, to produce annually an extensive series of comparable forms of tests covering all academic fields for both the junior college and the secondary school. After having issued six forms of a series of tests, most of which were ninety minutes in length, the Cooperative Test Service began in 1938 to produce a new series of forty-minute tests which are comparable in difficulty with the longer ones. For most high-school and junior-college subjects there are now several forms of the shorter tests. These tests, which are made with the assistance of many subject matter and testing specialists, are each year distributed very widely throughout this country. National norms for various types of institutions are now available so that it is possible for any secondary school or college to evaluate achievement and accumulate comparable measurements for individuals in all subjects ordinarily included in the academic curriculum.

Establishment of the Educational Records Bureau

In addition to the need for a non-commercial test-making agency whose activities would be nation wide, such as the Cooperative Test Service, a need began to be felt several years ago for an organization that would not publish tests but rather would assist schools in scoring, interpreting, and using tests in individual guidance. Therefore, in 1927, about five years before the Cooperative Test Service began to issue its tests, the Educational Records Bureau was formed by a small group of independent, or private, schools to serve

as a research and service agency and to assist them in obtaining annual comparable measurements on their pupils. The Bureau was chartered under the Board of Regents of the University of the State of New York as a nonprofit-making service and research agency to schools and colleges. It has grown steadily until now it includes about three hundred fifty institutions. Most of these are independent elementary and secondary schools, although about twenty public schools and approximately the same number of colleges are included in the membership. The Bureau is in no sense a closed corporation; rather, its services are available to every school, and new schools are constantly being added to its list of members.

How the Bureau Functions

The policy of the Bureau and the broad features of its work are determined by a Board of Trustees elected by the member institutions. Functioning under the Board, there are four standing committees, known as the Independent Schools Advisory Committee, the Committee on Tests and measurements, the Public Schools Advisory Committee, and the Committee on School and College Relations. The members of these committees are elected by the schools belonging to the Bureau. There is a permanent staff of twenty persons, which is augmented at certain times of the year by a part-time staff of from fifty to two hundred individuals.

Although the work of the Educational Records Bureau has been aided materially by a number of small grants from different organizations, the Bureau may properly be regarded as a self-supporting organization. Its existence is dependent entirely upon its member schools. The annual membership fee is fifteen dollars for each institution, but by far the largest proportion of its income is derived from its services in connection with scoring and reporting the results of tests for the different schools belonging to the Bureau. Without the income from this source, the Bureau could not exist. Its success, therefore, is due to the loyal

¹For a more complete history of the Bureau see: Eleanor Perry Wood, "The Bureau--Ten Years Old," *The 1937 Achievement Testing Program of the Educational Records Bureau*. Educational Records Bulletin No. 20, pages 1-12.

support of its member institutions and to the highly personalized service to these schools that were developed from the beginning by Mrs. Eleanor Perry Wood, who was for several years the Associate Director of the Bureau

Bureau Testing Programs

It was the conviction of the schools that originally banded together to establish the Educational Records Bureau that comparable measurements based on comprehensive objective tests are of great importance in a continuing study of pupils. These schools recognized such measurements as an indispensable supplement to other types of information used in constructive educational guidance and in administering transfers, promotions, and admissions to secondary schools and to colleges. The members of the Bureau have consistently adhered to this conviction. Consequently, the conducting of testing programs has from the beginning been the most important activity in which the Bureau has engaged

Two testing programs are held annually by the Bureau's member schools. The fall program consists of academic aptitude and reading tests, supplemented by some achievement tests for placement and diagnosis. In the spring, a comprehensive achievement testing program is conducted in all academic subjects at the elementary and secondary school levels. The tests to be used are selected by the Committee on Tests and Measurements in consultation with the members of the Executive Staff. Each school is free to decide the extent to which it will participate in the testing programs. The schools obtain the tests and complete directions for giving them from the Bureau. They administer the tests themselves, usually within a specified period, although they may utilize the services of the Bureau for testing at other times if they so desire. Some schools score their tests locally, but the majority return them for central scoring by the Bureau's staff at a per-test-per-pupil cost.

The services of the Bureau in connection with the tests consist of much more than merely scoring them. Distributions of the scores are made and the

necessary statistical work, such as the computation of medians and quartiles, is done. Class lists are prepared and sent to the schools showing part scores and total scores and percentile ratings corresponding to the scores. The tables from which the percentile ratings are derived are based on the results of tests scored by the Bureau's staff. Locally scored test results are not included in the norms. A special technique for insuring accuracy in the scoring is carefully followed in connection with all tests centrally scored.

When the test results are returned to a school, they are accompanied by an extensive descriptive and interpretative report. It is customary for the person preparing this report to take up the scores of each class on each of the tests and to discuss for the school the indications in the results for both groups and individuals. Sample distributions, a class list and an illustrative letter explaining and interpreting the scores of a ninth-grade class on the Cooperative English Test are shown on pages 9 to 14.

As already indicated, nearly all the schools participating in the annual testing programs of the Educational Records Bureau are independent elementary and secondary schools. It is therefore possible for the Bureau to develop norms for independent schools, and this is highly desirable. Since the independent schools are mainly college preparatory in nature, they enroll a selected group of students whose median intelligence quotient on a test such as the Otis is about 115. The norms for public schools are, therefore, much too low and norms for this selected college preparatory group are essential to effective guidance in these schools. During the last fifteen years, the Educational Records Bureau has developed by far the most comprehensive body of normative data for college preparatory pupils available anywhere. In fact, aside from Koo's study *Private and Public Secondary Education*,¹ the data in the Educational Records Bureau files provide almost the only comprehensive objective appraisal of the academic aptitude and achievement of independent school pupils.

¹Leonard V. Koo. *Private and Public Secondary Education*. Chicago: The University of Chicago Press, 1931.

COOPERATIVE ENGLISH TESTS, FORM R

School Park Country Day Grade 9 Date April 29, 1943

Scaled Score	A: MECHANICS OF EXPRESSION	B: EFFECTIVENESS OF EXPRESSION	C: READING COMPREHENSION	TOTAL A+B+C
114				
112				
110				
108				
106				
104				
102				
100				
98				
96				
94				
92				
90				
88				
86				
84				
82				
80				
78				
76				
74			1	
72		1		1
70				
68				
66				
64	1	2	3	1
62		4		2
60	2	3	1	2
58	2	2	2	2
56	3	1	3	1
54	1		2	4
52	2	1	1	1
50	3	2	4	3
48	3	1	2	2
46	3	2	1	1
44				
42				
40		1		
38		1	1	
36	1			1
34				
32				
30				
28				
26				
24				
22				
20				
18				
16				
14				
Total	21	21	21	21
Q3	57.8	62.9	59.8	60.8
Md	52.5	59.5	55.5	55.3
Q1	48.8	50.3	50.6	50.8
Range	36-64	39-72	39-74	37-72

.....Independent-school median

-----End-of-year public-school mean

COOPERATIVE ENGLISH TEST CI: READING COMPREHENSION, FORM R

School Park Country Day

Grade 9

Date April 29, 1943

Scaled Score	VOCABULARY	SPEED OF COMPREHENSION	LEVEL OF COMPREHENSION	TOTAL
114				
112				
110				
108				
106				
104				
102				
100				
98				
96				
94				
92				
90				
88				
86				
84				
82				
80				
78				
76				
74				1
72		1	2	
70				
68	1	1		
66			2	
64	2			3
62		1	4	
60	1	1	2	1
58	1	2	1	2
56	1		2	3
54	3	4	2	2
52	3	4	1	1
50	4	1	2	4
48	3	1	1	2
46	1	1	1	1
44				
42	1			
40			1	
38				1
36			1	
34		1		
32				
30				
28				
26				
24				
22				
20				
18				
16				
14				
Total	21	21	21	21
Q3	57.5	58.8	63.4	59.8
Md	53.0	53.8	59.0	55.5
Q1	50.1	50.3	51.3	50.6
Range	43-68	34-72	36-73	39-74

..... Independent-school median

----- End-of-year public-school mean

Grade 9

Date of _____

Date _____

Report April 28, 1943

Adm. April 7, 1943

[illegible]

EDUCATIONAL RECORDS BUREAU
437 West 59th Street
New York City

April 29, 1943

Mr. Harold W. Stetson
Park Country Day School
New York, New York

Dear Mr. Stetson:

We are sending herewith the report of the results of the Cooperative English Test, Form R, which was administered recently to the pupils in the ninth grade of the Park Country Day School. The report consists of distributions and a class list showing the scores in mechanics of expression, effectiveness of expression, vocabulary, speed of comprehension, level of comprehension, total reading comprehension, and total English score. We have entered independent-school percentiles on the class list, which we are sending in duplicate.

The class list is probably the most interesting and useful part of the report, since it shows the scores and percentile ratings of the individual pupils. However, when one is interpreting the results for the class as a whole, it is helpful to study the distributions, for they show how the scores compare with the medians or norms for independent- or private-school pupils.

The general form of the distribution sheet may need a word of explanation, although the distributions are quite easy to read when one understands how they are arranged. The column closest to the left-hand margin of the distribution sheet shows the score scale arranged in intervals of two. The dotted lines across the distribution columns indicate the independent-school medians for the various grades and the heavier broken lines show the public-school medians. The medians and ranges of the scores of your ninth-grade pupils are reported at the bottom of each distribution sheet. The median is also shown graphically by the short horizontal line adjacent to each distribution, and the range of the middle 50 per cent of the cases is indicated by the vertical line parallel to the distribution.

The results of the Cooperative English Test, and of most of the other Cooperative tests, are expressed in terms of a kind of derived score, known as the Scaled Score. The Scaled Score system is based on a mean of 50 and a standard deviation of 10 for a defined group. A Scaled Score of 50 is the score that the average pupil with an I.Q. of 100 would be expected to make at the end of the course if he had had the usual kind and amount of instruction. The Scaled Scores tend to range from 20 to 99, but the scores of beginning students are sometimes below 20 on certain tests, and very superior advanced students may sometimes make Scaled Scores slightly above 100 in certain aspects of the Cooperative tests. In English, or any other subject which is studied throughout the secondary school, a Scaled Score of

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50 is the score that the average pupil would be expected to make at the end of his high-school course. For one-year subjects, such as plane geometry, the end of one year of study is, of course, the reference point.

The independent schools, as you know, tend to enroll pupils who are above average in academic aptitude. Because of this fact, the Scaled Score of the average independent-school pupil near the end of the course tends to be approximately 60.

Persons who are well acquainted with tests have found the use of Scaled Scores very helpful, but teachers who are not accustomed to thinking in statistical terms may feel that they are unnecessarily technical. The Scaled Scores are preferable to raw scores for purposes of comparing the results of different tests and of the several parts of the same test. However, teachers who are not interested in working out the implications in Scaled Scores may employ them in the same way that they have always used raw scores. It should be made clear to the teachers that these scores are not raw scores and do not show directly how many questions each pupil has answered correctly. Teachers who are just beginning to work with objective tests usually are able to grasp the meaning of percentiles more readily than Scaled Scores.

You will note that there are two distribution sheets for the English test. The first sheet shows the distributions of the Scaled Scores on Test A, mechanics of expression; Test B1, effectiveness of expression; Test C1, reading comprehension; and on these three tests combined. The second sheet contains the distributions for vocabulary, speed of comprehension, level of comprehension, and the total reading comprehension score. It is apparent, therefore, that the distributions given in the right-hand column of the second sheet and in the third column of the first sheet are identical.

If you will refer to the last column of the first sheet, you will note that the median total Scaled Score made on the English test by your ninth grade, 55.3, is almost identical with the independent-school median for Grade X. Fourteen of the twenty-one pupils have total Scaled Scores above the independent-school median for the ninth grade.

The total scores of this class are distributed over a rather wide range. The lowest total Scaled Score, 37, made by Frederick Fenton, is slightly below the end-of-year public-school mean for Grade VIII, and corresponds to an independent-school ninth-grade percentile rating of 5. At the top of the class, Samuel Dickinson stands out with a total Scaled Score of 72, which is equivalent to a percentile rating of 98. This pupil's score is approximately ten Scaled Score units, or one standard deviation, above the independent-school median for Grade XII. Three other pupils, Gertrude Warren, Martha Simpson, and John Swanson, have total Scaled Scores which reach or surpass the independent-school twelfth-grade median.

Perhaps a short statement concerning the interpretation of percentiles would be helpful. As you no doubt know, a percentile shows the per cent of the scores in a distribution which are exceeded by a given score. Samuel Dickinson's percentile, 98, means that his total English score is above those

Mr. Harold W. Stetson -- 3

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of 98 per cent of the independent-school ninth-grade pupils, and is surpassed by those of 2 per cent. The lowest total score percentile, 5, made by Frederick Fenton, means that this pupil's total score exceeds those of only 5 per cent of the independent-school pupils in Grade IX, and is surpassed by those of 95 per cent of the pupils. Percentiles range from 1 to 100, and a percentile of 50 is, of course, the median or average.

Turning to the distributions for the three main parts of the test, one sees that the median Scaled Score of your ninth grade in effectiveness of expression, 59.5, is slightly above the independent-school median for Grade XI. The medians for mechanics of expression and reading comprehension fall between the independent-school medians for Grades IX and X. The level of comprehension median, as shown on the second distribution sheet, is almost identical with the independent-school eleventh-grade median, while the vocabulary and speed of comprehension medians are close to the medians for independent-school pupils in Grade IX.

In general, it appears that your ninth grade is, as a group, considerably advanced in effectiveness of expression and level of reading comprehension, is slightly above average for independent-school ninth-grade classes in mechanics of expression and total reading comprehension, and is almost exactly average for the independent-school group in vocabulary and speed of reading comprehension. It is apparent that nearly all the pupils are above average in comparison with the public-school norms for ninth-grade English.

The Scaled Scores and percentiles on the parts of the English test are useful in the diagnosis of strengths and weaknesses of individual pupils as well as classes. For example, Julie Haynes is rather low in effectiveness of expression, is not far below the independent-school ninth-grade median in mechanics of expression, and is above the median in total reading comprehension. Martin Livingstone, on the other hand, is high in effectiveness of expression, is close to the independent-school median in mechanics of expression, and is considerably below the median in total reading comprehension. It seems probable that these two pupils need different kinds of special help in English.

Please let us hear from you if there are questions concerning this report, or if we can be of assistance to you or your teachers in the interpretation and use of the scores on the test.

Sincerely yours,

Publications²

In addition to the testing programs, the Educational Records Bureau carries on a number of other activities, some of which have increased in importance within the last few years.

Test program bulletins.—Following each testing program, the Bureau issues a bulletin summarizing the results for the whole group of independent schools whose tests were scored centrally. These bulletins customarily show the distribution of scores for each independent-school grade or class on all the tests included in the program, together with medians and quartiles, and also public-school medians for comparative purposes. The distributions are frequently accompanied by descriptive and interpretative material. A typical distribution page is reproduced on page 16.

The bulletins dealing with the achievement tests also contain comparative charts in which the median scores made by every class in each of the schools are shown by code numbers on a scale of percentiles arranged according to unit of sigma on the normal probability curve. Through observing the position of its code number on the scale, any school can trace out the median achievement of all its classes. The chart for literary acquaintance and spelling in Grades IX-XII, which appeared in a recent bulletin, is reproduced on page 17, and the position of one school (239) is shown graphically by the solid line across the chart. It will be seen that the medians for this school were up to or above the independent-school medians except in the case of spelling at the twelfth-grade level.

Teacher education in the use of tests.—From the beginning, a great deal of the energy of the Bureau staff has been directed toward assisting teachers in the interpretation and use of test results. The Bureau has reinforced its emphasis on this important aspect of testing and guidance through the publication

¹A price list of the Bureau's available publications may be obtained on request.

TEST C: READING COMPREHENSION COOPERATIVE ENGLISH TEST, FORM T

DISTRIBUTIONS OF PUPIL TOTAL SCALED SCORES AND CLASS MEDIANS OF
INDEPENDENT SCHOOLS PARTICIPATING IN ACHIEVEMENT TESTING PROGRAM, APRIL, 1943

SCALED SCORE	PUPIL SCORES						CLASS MEDIANS						SCALED SCORE
	7	8	9	10	11	12	7	8	9	10	11	12	
92+					.5	4							92+
90		1	2		4	3							90
88			4	1	1	.5							88
86		2	1		6	10							86
84		1	3	8	9	19							84
82		2	2	4	8	20							82
80		3	12	11	16	18							80
78		2	5	5	28	24							78
76		3	11	11	26	32							76
74	1	4	15	17	21	38							74
72		10	24	24	48	62						2	72
70		12	16	28	50	59						1	70
68		25	43	39	64	91						4	68
66	3	16	43	55	97	100		2	1	1	6	10	66
64	2	33	53	63	107	115		2		1	5	8	64
62	5	42	86	64	86	114		1	6	1	6	10	62
60	18	47	86	111	153	157		2	7	6	11	9	60
58	4	44	77	116	179	150		1	12	13	13	12	58
56	23	54	109	111	156	122		1	4	9	8	17	56
54	31	70	114	164	164	121		9	12	16	10	5	54
52	20	59	91	151	138	101		3	9	9	12	3	52
50	20	90	91	107	117	80		3	7	7	4	1	50
48	38	82	94	79	64	45		4	9	5	2	1	48
46	33	69	101	66	52	24		6	5	3	3		46
44	33	55	77	43	23	23		2	3	2		1	44
42	31	45	50	41	16	12		2		1			42
40	33	32	35	13	9	5		6					40
38	19	13	20	12	10	3							38
36	12	17	9	8	3	2							36
34	18	5	10	6	1	2							34
32	11	4	5	1									32
30	6	5	7										30
28	2												28
26	2	2	1										26
24	2	1											24
22-	3	3	1										22-
Total	370	853	1298	1359	1661	1561	27	54	74	68	79	74	Total
Q3	53.5	59.5	61.9	61.8	65.4	67.9	47.2	52.7	55.7	55.6	58.7	61.6	Q3
Md	46.8	52.1	55.0	55.9	58.9	61.2							Md
Q1	41.1	46.9	48.2	51.3	53.7	55.5							Q1
Range	20-75	17-90	19-91	33-88	34-93	34-97	40.5	45.0	43.0	46.5	48.0	45.0	Range
Schools	30	54	65	58	59	54	57.0	67.0	66.0	68.0	69.0	73.0	

.....End-of-year public-school median

C₁ used in Grades 7, 8, 9; C₂ in Grades 10, 11, 12

FIGURE 2

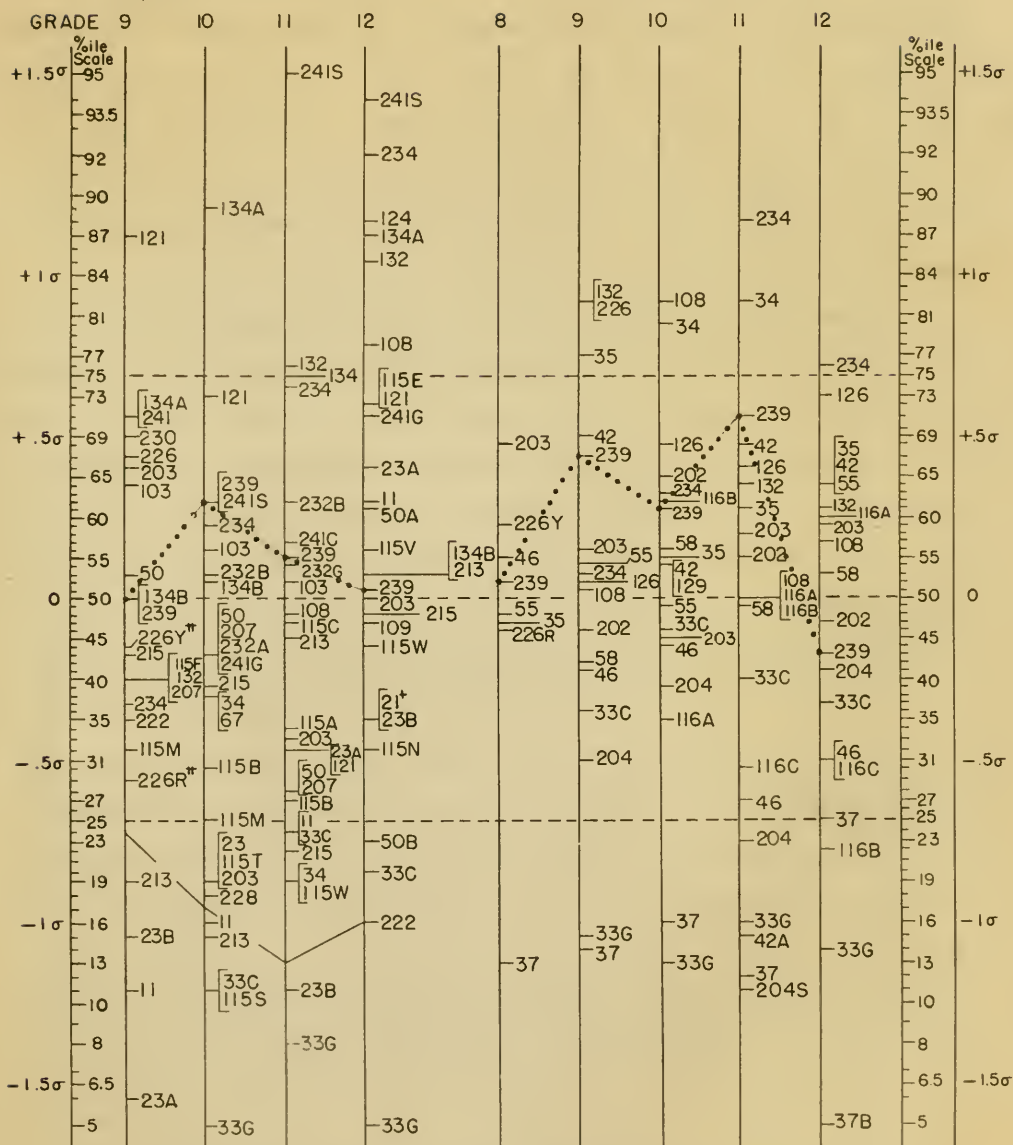
1942

LITERARY ACQUAINTANCE

Cooperative Test-Form Q

SPELLING LINCOLN DIAGNOSTIC

Form 2



of several bulletins and articles dealing specifically with the uses of tests and test results. Among these bulletins are No. 18, *The Use of Test Results in Diagnosis and Instruction in the Tool Subjects*; No. 23, *The Use of Tests and Rating Devices in the Appraisal of Personality*; No. 25, *The Use of Test Results in Secondary Schools*; and No. 34, *The Nature and Use of Reading Tests*. Bulletins Nos. 18 and 23 were recently revised and reprinted. The Bureau has also issued in multigraph form, a "Primer" on measurement entitled, *Introduction to Testing and the Use of Test Results*. The member schools are supplied with all bulletins published by the Bureau.

Because of the wide-spread interest in remedial reading, and also because of the close relationship between reading ability and the whole guidance problem, the Bureau has attempted to keep its member schools informed concerning research in the reading field. After issuing a series of mimeographed bibliographies on reading over a period of years, the Bureau published in 1942, a bulletin entitled, *Ten Years of Research in Reading*, which summarized reading studies during the period 1930-40.

Research -The files of the Educational Records Bureau contain data for an almost unlimited number of research studies, and a certain amount of research is carried on by the members of the staff notwithstanding their heavy service load. A considerable number of studies involving the use of some of the newer tests have been published in the bulletins summarizing the results of the fall and spring testing programs.¹ Members of the staff have also contributed articles

¹Bulletin 19: "Comparable Tests and School Marks;" Bulletin 20: "The Interpretation and Use of Scaled Scores;" Bulletin 22: "A Study of the California Test of Mental Maturity;" Bulletin 24: "The Relation between Speed and Level of Literary Comprehension;" Bulletin 26: "The Reliability and Validity of the American Council Psychological Examination;" "A Study of the Results of Reading Tests Administered a Year Apart;" "Some Correlation Data on the California Test of Mental Maturity;" Bulletin 27: "A Correlation Study of the Cooperative Mathematics Test for Grades 7, 8, and 9;" "A Report on the Thurstone Test for Primary Mental Abilities;" "A Study of the Junior Scholastic Aptitude Test;" Bulletin 29: "The Reliability of the American Council on Education Psychological Examination, 1939 Edition;" "A Study of the New Edition of the Iowa Silent Reading Test for High Schools and Colleges;" Bulletin 30: "The Cooperative English Test, Form Q: Correlations with School Marks and Intercorrelations;" "Group Scales versus Occupational Scales for the Strong Vocational Interest Blank;" "The Academic Aptitude of French and Latin Classes in Six Independent Schools;" Bulletin 31: "Correlation between IQ's on the New Edition of the Kuhlmann-Anderson Test and Binet IQ's;" "A Study of the Van Wagenen-Dvorak Diagnostic Examination of Silent Reading Abilities;" Bulletin 33: "Some Data on the Difficulty and Validity of the Cooperative Tests in Biology, Chemistry, and Physics, Form ERB-R;" "The American

based on Bureau data to educational journals.² Reprints of some of these have been obtained for distribution to member schools.

Committee reports.—The Committee on School and College Relations, with Dr. Eugene R. Smith as chairman, has issued four reports surveying entrance requirements of colleges. These reports were published in 1932, 1933, 1935, and 1943. The last report, entitled *Fourth Report of the Committee on School and College Relations of the Educational Records Bureau*, contains a detailed analysis and summary of the replies given by four hundred colleges to the recommendations of the committee. It is believed that this is one of the most important reports ever made available on the relations between secondary and higher institutions.

Council Psychological Examination: Intercorrelations of Scores on the 1938, 1939, and 1940 College Freshman Editions; "Bulletin 35: "Some Data on the Reliability and Validity of the Cooperative Test of Social Studies Abilities," "Intelligence Quotients Derived from the American Council Psychological Examination, College Freshman Edition;" "A Study of the Revised Edition" "the Stanford Achievement Test;" Bulletin 38: "Some Data on the Results of the Cooperative Tests in French, Latin, and Secondary School Mathematics, Form S;" Bulletin 37: "The Speed of Reading of Pupils in Independent Secondary Schools;" "The Reliability and Validity of the Reavis-Breslich Arithmetic Tests;" Bulletin 38: "A Study of the Lincoln Diagnostic Spelling Test;" "Some Data on the Cooperative American History Test."

²Correlation of Achievement Tests and School Marks, "School Review (December, 1937); "The Relationship between the Length and the Reliability of a Test of Rate of Reading," *Journal of Educational Research* (September, 1938); "A Cumulative Record Form for the Elementary School," *Elementary School Journal* (September, 1939); "An Experimental Study of a New Mathematics Test for Grades 7, 8, and 9," *Mathematics Teacher* (October, 1939); "The Correlation between Achievement Scores and School Marks in an Independent School for Boys," *Journal of Applied Psychology* (February, 1940); "One Reading Test Serves the Purpose," *The Clearing House* (March, 1940); "What is a Satisfactory IQ for Admission to Colleges?" *School and Society* (April, 1940); "The Reliability and Validity of the American Council Psychological Examination, 1938 Edition," *Journal of Educational Research* (October, 1940); "Some Data on the Kuder Preference Record," *Educational and Psychological Measurement* (July, 1941); "Cumulative Test Records: Their Nature and Uses," *Educational and Psychological Measurement* (October, 1941); "The Reliability of the Bell Inventories and Their Correlation with Teacher Judgment," *Journal of Applied Psychology* (December, 1941); "A Note on the Wrenn Study Habits Inventory," *Journal of Genetic Psychology* (1942); "Effect of Type of Desk on Results of Machine-Scored Tests," *School and Society* (September, 1942); "The Independent School and Education Yesterday, Today, and Tomorrow," *School and Society* (November 28, 1942); "Relationship of Elementary-School Achievement Tests to Achievement Tests Taken in the Secondary School," *Journal of Educational Research* (November, 1942); "Simplified Method for Scoring the Strong Vocational Interest Blank Applied to a Secondary-School Group," *Journal of Educational Psychology* (November, 1942); "Helping the Individual Pupil Adjust to the Problems of War and Peace," *School Review* (November, 1942); "Progressive Methods as Related to Knowledge of American History," *School and Society* (May 28, 1943).

Cumulative Records

For years various leaders in schools and colleges have maintained that the most fundamental instrument in a long-time guidance program is an individual cumulative record of objective measurement data and other information. They have pointed out that a cumulative record makes it possible to study the status and growth of each pupil and to adjust his program in accordance with all available information about him, and that it should also contribute in an important way to the transfer of the pupil to other schools and should serve in college admission and placement. The development, about 1930, of standard cumulative record forms for secondary schools and colleges, by Dr. Ben D. Wood and a committee working under the auspices of the American Council on Education, was one of the most important steps in spreading the practice of maintaining cumulative records. In 1933, a special adaptation of the American Council cumulative record form was prepared for independent elementary and secondary schools by Eleanor Perry Wood and Winston B. Stephens of the Educational Records Bureau. A sample copy of the form is shown on pages 21 and 22. In this particular record, only the test portion of the form has been filled out.

Many of the member schools of the Educational Records Bureau now keep cumulative records of their test results. Some schools maintain the cards locally; others send them to the Bureau to have the test portion of the card, including the graphic record, filled out, after which the records are returned to the school. When the pupil applies for admission to another school or to college, the Bureau, on request from the pupil's present school, sends a copy of the pupil's cumulative record to the institution to which he is going and accompanies the record with an interpretative letter.

In 1941, the original American Council cumulative record folder for secondary schools was revised by a committee under the chairmanship of Eugene R. Smith. The committee is now revising the college form and the one for elementary school.

BIRTHDATE

YEAR	SCHOOL	1936-1937		1937-1938		1938-1939		1939-1940		1940-1941		1941-1942	
		MENTAL AG.	PHYSICAL AG.	MENTAL AG.	PHYSICAL AG.	MENTAL AG.	PHYSICAL AG.	MENTAL AG.	PHYSICAL AG.	MENTAL AG.	PHYSICAL AG.	MENTAL AG.	PHYSICAL AG.
1936-1937	CLARKSON, LOAN C.	11	14-9	12	16-14	13	17-5	14	15	10	11	11	11
1937-1938	CLARKSON, LOAN C.	11	14-9	12	16-14	13	17-5	14	15	10	11	11	11
1938-1939	CLARKSON, LOAN C.	11	14-9	12	16-14	13	17-5	14	15	10	11	11	11
1939-1940	CLARKSON, LOAN C.	11	14-9	12	16-14	13	17-5	14	15	10	11	11	11
1940-1941	CLARKSON, LOAN C.	11	14-9	12	16-14	13	17-5	14	15	10	11	11	11
1941-1942	CLARKSON, LOAN C.	11	14-9	12	16-14	13	17-5	14	15	10	11	11	11

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NAME	M. F.	BIRTHDATE—PLACE	GEN'L HEALTH	RELIGION	RACE OR NAT'LITY	OCCUPATION	ADDRESS
FATHER							RES. BUS.
MOTHER							RES. BUS.
STEP PARENT OR GUARDIAN							RES. BUS.
LANGUAGE SPOKEN IN HOME BEFORE 10 —	AFTER 10 —	TYPE OF COMMUNITY BEFORE 10 —			AFTER 10 —		IF PARENTS SEPARATED GIVE DATE
YEAR AND AGE							
ADVISER							
ATTENDANCE	A	T	A	T	A	T	A
DISCIPLINE							T
HOME INFLUENCES AND COOPERATION							
MENTAL AND EMOTIONAL							
PHYSICAL AND ATHLETIC							
EXTRA CURRICULAR ACTIVITIES AND INTERESTS							
NOTABLE ACCOMPLISH- MENTS AND EXPERIENCES							
EDUCATIONAL PLANS							
PERSONALITY RATINGS	+2	+1	0	-1	-2		
REMARKS							

The Bureau has been active in bringing the new revision of the American Council forms¹ to the attention of high schools throughout the country.

There are, of course, many types of cumulative record cards in addition to those published by the American Council on Education and the Educational Records Bureau, and there is an almost endless variety of other record and report forms. Schools have, in recent years, become conscious of the fact that their educational theory and practice have oftentimes run far ahead of their antiquated methods of recording and many of them have recently been studying the problem of record keeping and have produced new experimental record forms. Different organizations, such as the National Education Association and the Progressive Education Association, have been very active in making and trying out new records. Because of the multiplicity of the records, it has appeared desirable to have a central agency for the collection and subsequent distribution of those that seem most promising. Some years ago, the Educational Records Bureau therefore began to collect samples of record forms from various school systems. The Bureau was able to make up several duplicate sets of carefully selected record and report forms, which it has loaned to schools for a period of one month, at a nominal charge to cover mailing costs. These sets are available to non-member as well as member institutions. At least 200 school systems and colleges have taken advantage of this loan service.

Services to Public Schools

Partly for financial reasons, testing programs have developed much more slowly among public schools than among independent schools. Another reason for the difference in the rate of development of testing in the two types of institution is that the independent schools, by their very nature, have long been concerned with the individual pupil, while many public schools, being much larger, have necessarily directed their attention to groups and have not until recently

¹Published by the American Council on Education, 744 Jackson Place, Washington, D.C.

become concerned with the study and guidance of the individual student.

Because of the fact that the individual is so easily lost in the large groups of pupils who pass through our urban public schools, the value of cumulative records based on objective measurements is potentially even greater in public schools than in private schools. There has been a need to call the attention of public schools to the values of cumulative comparable measurement and to demonstrate what public schools can do when they attack this problem intelligently. The main contribution of the Educational Records Bureau to this problem has been the Public School Demonstration Project, which was begun in 1934 and was carried on for a period of five years under a special grant from the Carnegie Foundation for the Advancement of Teaching. The major features of the project were comparable tests, cumulative records, a program of teacher education, and a series of case studies of individual pupils.

A report on the entire project entitled *Guidance in Public Secondary Schools* was published in 1939. Among the chapters in the report were, "Five Years of Guidance in the Plainfield High School," "The Cumulative Record and Its Uses," "Developing a Cumulative Record Card for Local Use," "An Experiment in Marking and Reporting," "In-Service Education of Teachers in Guidance," "How a Testing Program Contributes to Guidance," "An Experiment with Anecdotal Records," and "Contributions to Guidance Through Case Studies." It is believed that the work of the seven demonstration centers, which cooperated in the project has influenced measurement and guidance in many other schools.

The Bureau provides a scoring service for public schools which is utilized not only by the member public schools, but also by a considerable number of public schools which are not members of the Bureau. Two types of machine-scoring service have been developed for public schools. One type, known as Plan A, includes not only scoring but also distributions and class lists presenting the results and a letter of explanation and interpretation. The other

type, called Plan B, includes scores and distributions of scores only and is considerably less expensive than the first plan.

Services to Colleges

The Educational Records Bureau has no regular testing program for colleges, but it does a large amount of scoring, particularly by machine, for certain colleges in connection with the local testing programs of these institutions. Much of this work is concerned with the scoring of tests which the colleges administer to entering freshmen.

The Bureau also helps secondary schools plan and carry out entrance testing programs and scholarship tests for candidates for admission. Extensive scoring and interpretative services are provided in connection with some of these entrance and scholarship tests.

Cooperation with other Examining Agencies

If the many difficult problems of measurement are to be met successfully, it is imperative that there be close cooperation among all examining and guidance agencies. The Educational Records Bureau has been very fortunate in that its relations with all other agencies engaged in similar work have, from the beginning, been very cordial. The Bureau's relationship with the Cooperative Test Service has been especially close. Since 1933, these two organizations have been working under one director, Dr. Ben D. Wood, in such close harmony that even persons well acquainted with the activities of both groups have frequently been under the mistaken impression that they were one and the same organization. For more than ten years, the tests produced by the Cooperative Test Service have annually formed the basis for the measurement of achievement in the secondary schools holding membership in the Bureau. There are several other ways in which the Bureau has engaged in activities along with other organizations. These include educational conferences, test construction, and the use of new measuring devices.

Educational Conferences.-For ten successive years, a series of educational conferences was conducted each fall in New York City under the auspices of the Committee on Personnel Methods and on Educational Testing of the American Council on Education, the Commission on the Relation of School and College of the Progressive Education Association, the Cooperative Test Service, and the Educational Records Bureau. The high quality of the programs planned for these conferences has attracted educational leaders from schools and colleges throughout the country. The published proceedings of this series of conferences represent some outstanding contributions to contemporary thought on educational problems in the United States. The conditions created by the war, especially those pertaining to travel, have necessitated the temporary abandonment of the annual conference, but it is planned to resume this type of activity as soon as conditions permit.

Test Construction.-Although the Educational Records Bureau is not a test-making agency and while there is no intention of setting up an elaborate organization for the production of tests, the Bureau is in an especially favorable position to contribute to the evaluation and construction of tests through cooperation with such test-making organizations as the Cooperative Test Service. Leaders in the testing movement have pointed out that the ultimate hope in achievement-test construction is to have the tests represent the combined thinking and work of subject-matter specialists and test technicians. Member schools of the Bureau can contribute significantly to the making of tests through stating their objectives, indicating the areas in which the tests should be made, and appraising tests after they are developed in an effort to meet the needs of these schools. Three forms of tests in each of the following fields have been constructed by committees of teachers appointed for this purpose: mathematics for grades 7, 8, and 9, biology, chemistry, and physics. All of these tests have been published by the Cooperative Test Service. A Bureau committee on social

studies tests has worked with members of the Cooperative Test Service staff in the preparation of two forms of a general achievement test in the social studies. Another Bureau committee has participated in the preparation of a secondary school mathematics test, which was published by the Cooperative Test Service. It is hoped that this kind of cooperative effort may eventually be extended to all subject fields.

Use of New Measurement Devices.-The Bureau can render service to its own members and to test-making bodies through helping to spread the use of new measuring instruments that are especially promising. This type of service is illustrated by cooperation between the Bureau and the Secondary Education Board in the distribution and use of the Secondary Education Board Junior Scholastic Aptitude Test. The various forms of the Junior Scholastic Aptitude Test are prepared by the Bureau of Research of the Secondary Education Board and the Educational Record Bureau serves as the sole distributing and scoring agency for that test.

A somewhat similar endeavor, which the Bureau has undertaken very recently, is the distribution and scoring of the Yale Aptitude Tests, prepared by Dr. A. B. Crawford of the Department of Personnel Study of Yale University. The schools should ultimately benefit from such cooperation through enlarged services and improved measuring instruments.

Advisory Services

The Educational Records Bureau provides an advisory service in testing, record keeping, and guidance mainly for the benefit of its member schools, but representatives of schools not holding membership in the Bureau frequently call on this organization for advice both by correspondence and in personal interviews. In consonance with its desire to be of the largest possible educational service, the Bureau meets these requests for information and advice as far as its resources will permit. Consequently, hundreds of advisory letters are written to

non-members each year and many hours are spent in interviews with representatives of schools outside the Bureau membership. Since these advisory services do not directly benefit the member schools of the Bureau, they may be regarded as a contribution made to education generally by the institutions to which the Bureau owes its existence.

Services to Governmental Agencies

U.S. Office of Indian Education.--For several years the Educational Records Bureau has distributed, scored, and reported the results of tests administered to Indian students who were applicants for government scholarship loans to enable them to attend college. Percentile norms have been prepared for these tests on the basis of the scores of the Indian students. At the request of the Office of Indian Education, the Bureau recently made a study on the value of test scores, school marks, and other criteria for the prediction of success of Indian students in college.

U.S. Merchant Marine Academies.--In the spring of 1942, the Bureau helped to Plan a testing program for entering cadets in three academies of the U.S. Merchant Marine. For more than a year, the Bureau supplied, scored, and reported the results of four tests employed in that program with each new cadet. The aptitude and achievement of several thousand cadets were evaluated in this way.

Qualifying Test for the Army and Navy College Training Program.--The Educational Records Bureau is serving as one of the regional offices for the Qualifying Test for the Army and Navy College Training Program. Eleven civilian agencies are cooperating in that program under instructions from the armed services. Ten regional offices are working under the direction of the national office, which is located at the College Entrance Examination Board. The region served by the Educational Records Bureau is New York State and the New England States. Nearly two thousand schools in this region cooperated in the Qualifying

Test which was administrated on April 2, 1943, and about sixty-two thousand boys in this area took the test. The tests were processed by the regional office and the results reported to the Army and Navy in accordance with directions.

All organizations participating in the Qualifying Test for the Army and Navy College Training Program are working on a strictly cost basis and not one cent of profit is being derived by any of these agencies. The staff members of the Educational Records Bureau, like those of the other participating organizations, welcome especially this opportunity to make this small contribution to the war effort.

Conclusion

In summary, one may say that the service functions of the Educational Records Bureau are well established and are at present the most important of all its functions. Both because of financial limitations and of emphasis on the service phase, the research aspect of the Bureau is not highly developed, although much interest in research is present, as is shown by the production of studies of limited scope whenever time has permitted. The remarkable expansion of the activities of this organization, within a period of approximately fifteen years, furnishes evidence of the effectiveness of the Bureau's work and the loyalty of its member schools. Moreover, it is a testimonial to the soundness of the fundamental idea on which the Bureau is founded - the promotion of the education and adjustment of individuals through a cooperative and continuous program of comparable measurements, interpreted from the viewpoint of a broad educational philosophy and in the light of a comprehensive cumulative record for every pupil.

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